ANDREWS
ENGINEERING, INC.

October 31, 2013

Stephen F. Nightingale
Manager, Permit Section
Bureau of Land
Illinois Environmental Protection Agency
1021 North Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276

Re: 2018080001 – Winnebago County
Winnebago Landfill – Northern and Southern Units
Alternate Source Demonstration

Dear Mr. Nightingale:

On behalf of Winnebago Landfill, submitted herein are an original and three copies of an alternate source demonstration in accordance with Condition VII.15 of Permit No. 1991-138-LF, Modification 62. Application forms (LPC-PA1 and Certification of Authenticity) are provided in Appendix A of the application.

Please contact Tom Hilbert at (815) 963-7516 if you have any questions or require additional information.

Sincerely,

Teresa N. Sharp

Teresa N. Sharp
Environmental Scientist

TNS:bjh:ask:enr

Enclosure(s)

cc: Tom Hilbert – William Charles Waste Companies
Bernie Shorle – US EPA Region 5

Winnebago Landfill
Northern and Southern Units
Winnebago County, Illinois

Permit Number: 1991-138-LF
Site Number: 2018080001

Alternate Source Demonstration

October 2013

Submitted to:
Illinois Environmental Protection Agency
Bureau of Land
Springfield, Illinois

Prepared for:
Winnebago Landfill
8403 Lindenwood Road
Rockford, Illinois

Prepared by:
ANDREWS
ENGINEERING, INC.
3300 Ginger Creek Drive
Springfield, Illinois 62711
Tel: (217) 787-2334; Fax: (217) 787-9495

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

Condition No. VII.15 of Permit No. 1991-138-LF, Modification No. 62, granted to Winnebago Landfill Company (LLC as owner and Winnebago Reclamation Service, Inc. as operator), requires that either an alternate source demonstration be conducted for all confirmed monitored increases detected in facility monitoring wells, or that an assessment monitoring program be implemented to determine whether the facility is the source of confirmed increases. Exceedences that were observed during the second quarter of 2013 were sampled for confirmation during the third quarter 2013 event. This alternate source demonstration will address the exceedence of tetrahydrofuran at well R25D (Southern Unit). The application forms (Certification of Authenticity and LPC-PA1) are contained in Appendix A.

2. BACKGROUND INFORMATION

2.1 Site Description

The Winnebago Landfill facility contains three separate disposal areas that have received waste. The Northern and Southern Units were authorized under Illinois EPA Permit No. 1991-138-LF, and the North Expansion Unit was authorized via Permit No. 2006-221-LF. The Northern Unit ceased accepting waste on September 8, 2000 while The Southern Unit ceased accepting waste on March 31, 2011. In addition, the North Expansion Unit—located between the existing Northern Unit and Baxter Road—began operation on May 16, 2008. The West Expansion Unit was permitted via 2010-133-LF but has not been developed at this time. A site location map showing the disposal areas has been provided as Figure 1.

2.2 Site Hydrogeological Summary

The site hydrogeologic characteristics have been determined based on implementation of a series of subsurface investigations, beginning with the initial drilling investigation in 1969 by Testing Engineers, Inc. Subsequent investigations have included advancement of borings, monitoring well/piezometer installations for the existing site and facility expansion, and comprehensive groundwater quality testing because of releases from Acme Solvents. Additional hydrogeologic information has been obtained due to development activities of the North Expansion Unit, which includes excavation of materials exposing bedrock and unconsolidated deposits. Since the West Expansion Unit has not been developed and is physically separated from the Northern, Southern, and North Expansion Units, the hydrogeologic conditions for the West Expansion Unit are not discussed herein.

2.2.1 Unconsolidated Deposits

The composition of the unconsolidated deposits, which appear to be glacial outwash belonging to the Henry Formation, varies with location throughout the facility boundaries. Coarse-grained sand and gravel with occasional silt and/or clay seams typically underlie the Northern Unit. The thickness of the sand and gravel varies from just a few feet beneath the east toe of the waste footprint to approximately 70 feet beneath the western edge of the waste boundary. The sand and gravel thickens to the west, corresponding with the erosion of the underlying dolomite surface. Unconsolidated sand and gravel glacial drift sediments directly underlie the western portion of the Northern Unit, while fractured dolomite bedrock underlies the eastern portion of the landfill.

2.2.2 Bedrock

The bedrock consists of dolomite belonging to the Galena and Platteville Groups, fractured and weathered to varying extents. Chert layers, chert nodules, and small vugs were commonly noted on boring logs. However, larger voids or karst characteristics were not encountered during the boring programs. The bedrock surface is highly variable throughout the facility. East of the site, a bedrock high is present and outcrops in the vicinity of the Acme Solvents site and two quarries. This bedrock upland represents the eastern escarpment of the Upper Rock buried bedrock valley. The previously described waste units are situated on the eastern edge of this bedrock valley. The overburden thickens as the elevation of the bedrock surface decreases to the west. As determined by previous boring investigations, monitor wells, and gas probe installations, the bedrock varies from a high of near 750 feet above mean sea level (MSL) at the southeast corner of the Northern Unit to a low of approximately 675 feet MSL to the west and south of the Southern Unit.

2.2.3 Uppermost Aquifer

The uppermost aquifer for the site is located within the glaciofluvial sand and gravel deposits and the upper portion of the fractured dolomite bedrock. The saturated sands and gravels, which directly overlie the bedrock, occur in the western two-thirds of the Northern Unit. In locations where there are no saturated glaciofluvial deposits, the uppermost aquifer is located within the dolomite bedrock typically overlain by silty clay deposits. This occurs in the eastern third of the Northern Unit.

2.2.4 Groundwater Movement

The regional potentiometric surface resides within the fractured dolomite in the eastern portion of the site and within the unconsolidated glacial outwash in the western portion. The historical direction of movement within the uppermost aquifer is westward in the bedrock high east of the site and to the west-northwest in the unconsolidated sediments. However, dewatering activities implemented as part of cell development within the North Expansion Unit have caused the groundwater movement to temporarily deviate in a northward direction in the vicinity of the Northern Unit. Potentiometric surface maps (fourth quarter 2012 through third quarter 2013) have been provided in Appendix B.

Kilbuck Creek is located west of the Southern, Northern, and North Expansion Units. Shallow groundwater may discharge to Kilbuck Creek while groundwater in the lower part of the unconsolidated sediments and deeper bedrock moves beneath Kilbuck Creek. Kilbuck Creek is both a gaining and losing stream, dependent upon hydrogeologic and atmospheric conditions. During drier periods where the water table drops below the bottom of the creek bed, surface waters feed the groundwater system. During wetter periods where the water table is high (above the bottom of the creek bed) the groundwater system will recharge the stream. This fluctuation allows mixing of surface water (and, consequently, surface water constituents) with groundwater (and any groundwater constituents), often on a seasonal basis. In addition, dependent upon the creek stage, the surface waters of both the creek and the wetland mitigation area may be contiguous.

The bottom of the aquifer system beneath the facility, which includes both the saturated sand and gravel and the underlying weathered/fractured dolomite, lies at an elevation of approximately 665 feet MSL. Previous hydrogeologic investigations and evaluations have shown that vertical gradients do exist within the uppermost aquifer but are typically slight at any individual location. Therefore, groundwater elevations from the bedrock wells and the wells

screened in the unconsolidated materials (sand and gravel) were used to create one potentiometric surface for each quarterly sampling period. The horizontal hydraulic gradients are greater at the east end of the facility where the bedrock is higher and fairly flat near Kilbuck Creek. However, recent dewatering activities within the North Expansion Unit have induced an artificial hydraulic gradient towards the pumping centers, which is naturally higher compared to the preexisting gradient of the uppermost aquifer.

3. CURRENT GROUNDWATER MONITORING PROGRAM

3.1 Existing Monitor Well Network

The facility has an extensive network of monitoring wells from which groundwater data is obtained. Separate monitor well networks exist for the Northern and Southern Units. The Northern Unit contains 20 groundwater monitoring points, of which five are designated as background groundwater quality wells (upgradient). One is a compliance boundary well at the edge of the zone of attenuation, and the remaining wells monitor within the zone of attenuation downgradient and sidegradient of the landfill. Winnebago Landfill samples 15 additional wells on a quarterly basis as part of the Groundwater Management Zone (GMZ) monitoring network. Each well is identified in Figure 2. The following table provides a list of the monitoring wells for the Northern Unit.

Northern Unit Detection Monitoring Wells (20)	
Upgradient	G09D, G09M, G13S, G13D, G20D
Compliance Boundary	R39S
Zone of Attenuation	G03M, G16M, G17S, G33D, G34D, G35D,
	G37S, G38S, G40S, G41D, G41M, G41S, R42S, G51S
Northern Unit GMZ Only Wells (15)	
Compliance Boundary	G36S, G52S, G52M, G53S, G53M, G54S, G54M
Zone of Attenuation	R03S, G16D, G33S, G34S, G35S, G37D, G130, G50S

The Southern Unit contains 17 permitted groundwater monitoring points. Six are designated as background groundwater quality wells (upgradient); two (G13S and G13D) are also background wells for the Northern Unit. Although monitoring wells R05S, R29S, and G29D are permitted as zone of attenuation wells, based on the potentiometric surface maps (Appendix B), these wells are also located upgradient to the waste units. The wells have been used previously in the derivation of the background concentration values (sometimes called Applicable Groundwater Quality Standards [AGQS]) for the unit. The following table lists the monitoring wells for the Southern Unit.

Southern Unit Detection Monitoring Wells (17)	
Upgradient	R11S, G11D, G13S, G13D, R22S, G22D
Zone of Attenuation	R05S, G23D, R24D, R25D, R27D, A28D, R29S, G29D, G26S, G26D, G49D

3.2 Background Concentrations

The initial AGQSs for the Northern Unit were determined from data obtained from four wells located east of Lindenwood Road, on the Acme Solvents property (B-8, STI-2S, STI-2I, and STI-2D). Background sampling occurred from 1990 through 1992. The AGQSs were proposed in the initial significant modification application (Application Log No. 1991-138, received by the Illinois EPA April 12, 1991) and subsequent addenda. Addendum 3 to the initial significant modification, dated February 10, 1993, provided the first full listing of routine AGQS values derived from wells G09M, G09D, G13S, and G13D. Since the time the background concentrations were obtained, remediation at the Acme Solvents facility ceased and an additional quarry began operation north and east of Acme Solvents (the facilities are located upgradient to the landfill). The approximate locations of Acme Solvents and the quarries are shown in Figure 1. These activities have likely affected the current background conditions. To account for changes in the background groundwater quality since 1993, revised AGQS values for 60 G1 and G2 List parameters were submitted and subsequently approved with the issuance of Modification 24 to the current permit on March 26, 2004.

The initial AGQSs for the Southern Unit were determined from data obtained from the permitted upgradient/background wells. However, revisions to several background values have included data from wells R05S, G29S, and G29D as part of the statistical derivation. Although permitted as zone of attenuation wells, these wells are actually hydraulically upgradient to the Southern Unit and provide additional information on the background groundwater quality. As mentioned in Section 3.1 above, monitoring wells G13S and G13D are contained in the monitoring well networks for both the Northern and Southern Units and are located hydraulically upgradient to both units. As a special condition for the Southern Unit (Condition VII.24 of Permit No. 1991-138-LF, Modification No. 62), the groundwater qualities for these two wells—along with R05S—are not evaluated with respect to the permitted AGQSs but are reviewed based on intra-well trend analyses. The results are summarized in the annual report in accordance with Condition X.2 of the Permit.

4. GROUNDWATER QUALITY

In accordance with 35 Illinois Administrative Code (Ill. Adm. Code) 811.319 and the current permit, the groundwater quality is evaluated on a quarterly basis. Results of the statistical evaluations are reported quarterly in accordance with Condition No. VII.18. Notification of observed/confirmed increases has been submitted in accordance with Condition VII.14 of the permit. As stated in the introduction, this alternate source demonstration will address the second quarter 2013 confirmed exceedence of tetrahydrofuran at well R25D (Southern Unit). The historical analytical data for the subject exceedence is provided in Table 1.

4.1 Tetrahydrofuran

The second quarter 2013 concentration (17 ug/L) of tetrahydrofuran at well R25D exceeded the AGQS/MAPC value (7 ug/L) and the preceding fourth quarter 2012 concentration (< 2 ug/L). This was the first detection of the subject parameter at well R25D since sampling commenced in second quarter 1998. The third quarter 2013 concentration (4.4 ug/L) did not confirm the AGQS/MAPC exceedence.

It has been determined that the source of the confirmed increase is an unknown offsite source, not landfill impacts. Tetrahydrofuran has no history of detection in well R25D. Nor has it ever been detected in adjacent wells R24D, G26D, G26S, or G27D which are all located along the

southwestern perimeter of the Southern Unit. It should also be noted that during second quarter 2013, groundwater elevation in well G23D, located at the southwestern corner of the Southern Unit, increased by approximately 13 feet compared to the previous quarter and has sustained the high water level through third quarter 2013 (Appendix B). This change in the potentiometric surface has effectively converted G23D into an upgradient well and R24D and R25D into sidegradient wells compared to the waste unit. Given the current shift in the local groundwater flow regime, it is highly unlikely that any exceedences in the subject well are related to the waste unit.

This is a clear indication that the isolated detects for tetrahydrofuran observed in R25D are likely due to offsite sources. Since the current concentrations are below the AGQS/MAPC value, no further action is necessary for this parameter.

5. RECOMMENDATIONS AND CONCLUSIONS

Based on an evaluation of the historic sampling results, trend analyses, groundwater flow direction, and background information, the confirmed increase of tetrahydrofuran at R25D is not associated with the landfill but appears to be isolated incidents related to upgradient offsite sources. Since current concentrations of tetrahydrofuran at well R25D are below the permitted AGQS/MAPC value, no further action is necessary; groundwater monitoring shall continue as currently permitted. This alternate source demonstration fulfills the requirements of Condition VII.15 of Permit No. 1991-138-LF, Modification No 62.

TABLES

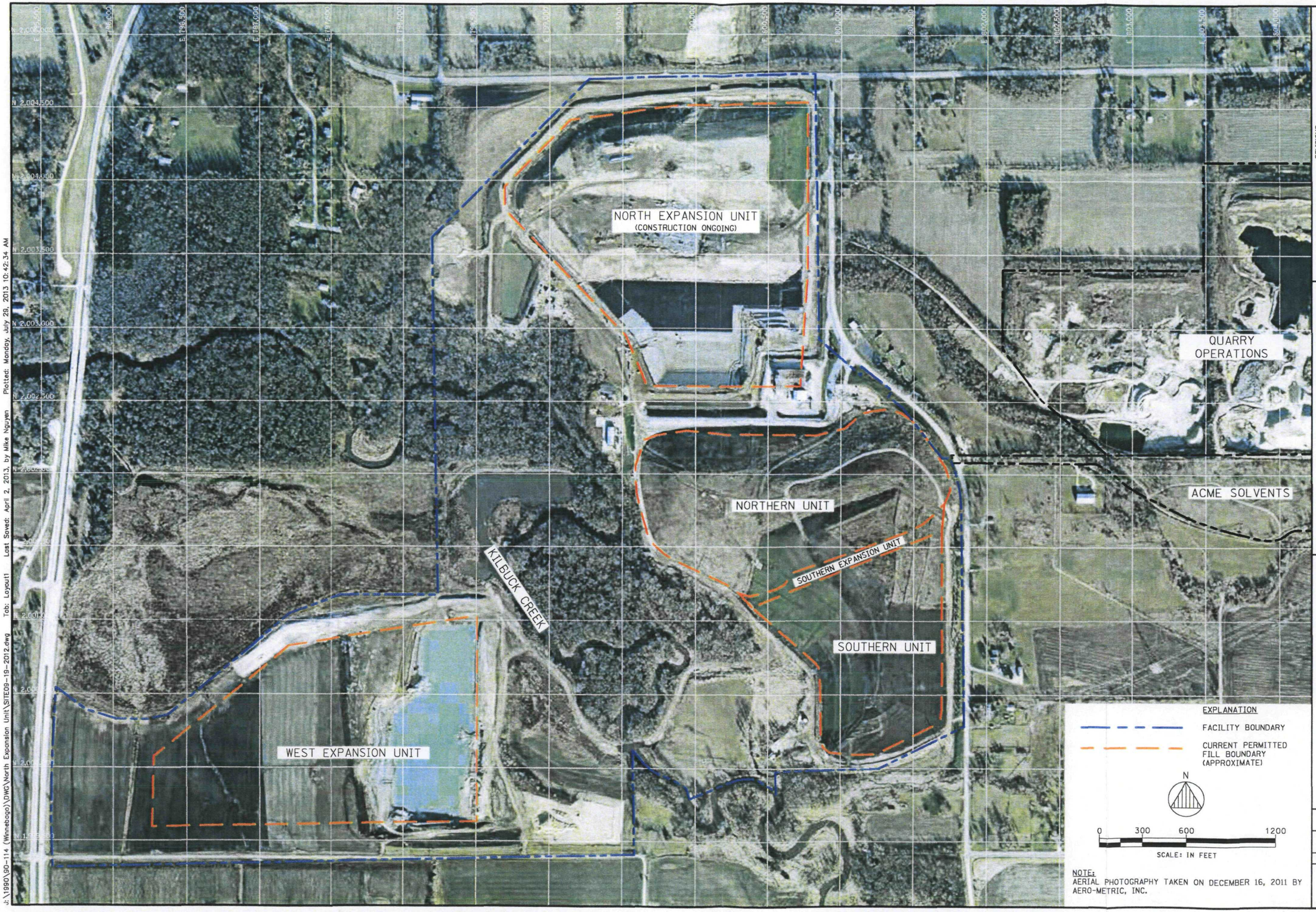
[redacted] Winnebago Landfill
Southern Unit
R25D - Historical Tetrahydrofuran Analytical

Well ID	Parameter	Units	AGQS/MAPC	2ndQtr98	2ndQtr99	2ndQtr00	2ndQtr01	2ndQtr02	2ndQtr03	2ndQtr04	2ndQtr05	2ndQtr06	2ndQtr07	2ndQtr08
R25D	Tetrahydrofuran	ug/l	7	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5

Well ID	Parameter	Units	AGQS/MAPC	4thQtr08	2ndQtr09	4thQtr09	2ndQtr10	4thQtr10	2ndQtr11	4thQtr11	2ndQtr12	4thQtr12	2ndQtr13	3rdQtr13
R25D	Tetrahydrofuran	ug/l	7	< 20	< 2.5	< 2.5	< 2.5	< 2.5	< 2	< 2	< 2	< 2	17	4.4

Note: A highlighted cell indicates an exceedence of the AGQS/MAPC value.

FIGURES



REVISIONS

NO.	DATE	DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001641

APPROVED BY: TNS | DESIGNED BY: TNS | DRAWN BY: MPN

SITE LOCATION MAP

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: APRIL 2013

PROJECT ID: 1990-114

SHEET NUMBER:

FIG. 1

J:\1990\90-114 (Winnebago)\DWG\North Expansion Unit\SITE09-19-2012.dwg Tab: Layout1 Last Saved: April 2, 2013, by Mike Nguyen Plotted: Monday, July 29, 2013 10:42:34 AM

E 795500 E 796000 E 796500 E 797000 E 797500 E 798000 E 798500 E 799000 E 799500 E 800000 E 800500

N 2004500 N 2004000 N 2003500 N 2003000 N 2002500 N 2002000 N 2001500 N 2001000 N 2000500 N 2000000 N 1999500

N

500 0 500 1000 2000

SCALE: IN FEET

NORTH EXPANSION UNIT

NORTHERN UNIT

SOUTHERN UNIT

WESTERN EXPANSION UNIT

SOUTH UNIT EXPANSION

LEGEND:

- NORTHERN UNIT GROUNDWATER MONITORING WELL OR GMZ WELL
- SOUTHERN UNIT GROUNDWATER MONITORING WELL
- CURRENTLY PERMITTED FILL BOUNDARY
- FACILITY BOUNDARY
- WESTERN EXPANSION UNIT MONITORING WELL
- NORTH EXPANSION UNIT MONITORING WELL
- PIEZOMETER
- NORTH EXPANSION UNIT GAS PROBE
- NORTHERN AND SOUTHERN UNITS GAS PROBE

G185 G182 GP50 GP48 G180 GP49 G179 GP51 G178 GP47 G177 R183 G176 G175 GP52 G174 GP46 G173 G172 G171 G170 GP45 G169 GP53 G168 G167 GP44 G50S G166 G52S G52M G165 G184 G164 G37S G37D G163 G17S G161 G162 G40S G53M G34D G53S G34S R39S GP-1 GP-2 G51S GP-3 GP-4 GP-5 GP-6 GP-7 GP-8 GP-9 G54S G54M G35D G41M G41D G16M G16D G35S G41S GP-17 R03S G03M G09M G09D R05S GP-10 G20D G33S G33D G38S GP-20 G13S G13D GP-16 G36S GP-21 G130 R42S GP-15 R11S G49D GP-31 G11D GP-22 A28D R27D GP-30 G26S G26D R25D GP-23 GP-29 R22S R24D G22D GP-28 GP-24 G23D GP-25 GP-27 G29D GP-26 R29S

MW-25-04 MW-21-04 MW-19-04 MW-15-04 MW-18-04 MW-17-04 MW-23-04 MW-16S-04 MW-24-04

NO.	DATE	REVISIONS DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9465
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001541

APPROVED BY:	JLR	DESIGNED BY:	LJR	DRAWN BY:	MPN

SITE MAP

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: MAY 2012
PROJECT ID: 1990-114
SHEET NUMBER:

FIG. 2

J:\1990\90-114 (Winnebago)\DWG\2012\SITE MAP 5-9-12.dwg Tab: Layout1 Last Saved: July 30, 2013 11:55:51 AM Plotted: Tuesday, July 30, 2013 by Mike Nguyen

APPENDICES

APPENDIX A

APPLICATION FORMS

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

General Application for Permit
(LPC - PA1)

This form must be used for any application for permit from the Bureau of Land, except for landscape waste composting or hazardous waste management facilities regulated in accordance with RCRA, Subtitle C. One original, and two copies, or three if applicable, of all permit application forms must be submitted. Attach the original and appropriate number of copies of any necessary plans, specifications, reports, etc. to fully support and describe the activities and modifications being proposed. Attach sufficient information to demonstrate the compliance with all regulatory requirements. Incomplete applications will be rejected. Please refer to the instructions for further guidance. **Note: Applicants must provide a physical address; the post office will not deliver a certified letter (final action letter) to a P.O. Box only. Please provide an extended ZIP+4 code for the site identification and owner/operator information.**

You may complete this form online, save a copy locally, print, sign and submit it to the Bureau of Land at the address below. Note: Hand-delivered permit applications must be delivered between 8:30 am and 5:00 pm, Monday through Friday (excluding State holidays) to:

Bureau of Land, Permit Section, Mail Code #33
1021 North Grand Avenue East, P.O. Box 19276
Springfield, IL 62794-9276

I. Site Identification:

Site Name: Winnebago Landfill IEPA BOL No.: 2018080001

Street Address: 8403 Lindenwood Road P.O. Box:

City: Rockford State: IL Zip + 4:* 61109 *Notification letters will not be sent without a 9-digit zip code. County: Winnebago

Existing DE/OP Permit Numbers (if applicable): 1991-138-LF

II. Applicant Identification:

Owner		Operator (if Different)	
Name:	Winnebago Landfill Company, LLC	Name:	Winnebago Reclamation Service, Inc.
Street Address:	5450 Wansford Way, Suite 201B	Street Address:	5450 Wansford Way, Suite 201B
PO Box:		PO Box:	
City:	Rockford State: IL	City:	Rockford State: IL
Zip + 4:	61109 Phone:	Zip + 4:	61109 Phone:
Contact:	Tom Hilbert	Contact:	Tom Hilbert
Email Address:	thilbert@rresvcs.com	Email Address:	thilbert@rresvcs.com
FEIN ID No.	36-2917437	FEIN ID No.	36-2917437

Agency correspondence mailed to: Owner ☐ Operator ☐ Other - Explain ☐

TYPE OF SUBMISSION/REVIEW PERIOD:

- ☐ New Landfill/180 days (35 IAC Part 813)
- ☐ Landfill Expansion/180 days (35 IAC Part 813)
- ☐ Sig. Mod. to Operate/90 days (35 IAC Part 813)
- ☑ Other Sig. Mod./90 days (35 IAC Part 813)
- ☐ Renewal of Landfill/90 days (35 IAC Part 813)
- ☐ Development/90 days (35 IAC Part 807)
- ☐ Operating/45 days (35 IAC Part 807)
- ☐ Supplemental/90 days (35 IAC Part 807)
- ☐ Permit Transfer/90 days (35 IAC Part 807)
- ☐ Renewal of Experimental Permit (35 IAC Part 807)

TYPE OF FACILITY:

- ☑ Landfill
- ☐ Land Treatment
- ☐ Transfer Station
- ☐ Treatment Facility
- ☐ Storage
- ☐ Incinerator
- ☐ Composting
- ☐ Recycling/Reclamation
- ☐ Other (Specify)

TYPE OF WASTE:

- ☑ General Municipal Refuse
- ☐ Hazardous
- ☐ Special (Non-Hazardous)
- ☐ Chemical Only (exec. putrescible)
- ☐ Inert Only (exec. chem. & putrescible)
- ☐ Used Oil
- ☐ Potentially Infectious Medical Waste
- ☐ Landscape/Yard Waste
- ☐ Other (Specify)

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

III. Description of this Permit Request: (Note: The box below will expand as needed)

Alternate source demonstration for second quarter 2013 confirmed exceedences (Permit No. 1991-138-LF).

IV. Completeness Requirements

1. Have all required public notice letters been mailed in accordance with the LPC-PA16 instructions? Yes ☑ No ☐ N/A ☐

(If so, provide a list of those recipients of the required public notice letters for Illinois EPA retention. Such retention shall not imply any Illinois EPA review and/or confirmation of the list.)

Public Notice Recipients

Name: Steve Stadelman Title: Senator - District 34
Street Address: 200 South Wyman Street, Suite 301 P.O. Box:
City: Rockford State: IL Zip Code: 61101

Name: Charles Jefferson Title: Representative - District 67
Street Address: 200 South Wyman Street, Suite 304 P.O. Box:
City: Rockford State: IL Zip Code: 61101

Name: Joseph Bruscato Title: State's Attorney
Street Address: 400 West State Street P.O. Box:
City: Rockford State: IL Zip Code: 61101

Name: Scott Christiansen Title: County Chairman
Street Address: 404 Elm Street, Room 504 P.O. Box:
City: Rockford State: IL Zip Code: 61101

Name: Village of New Milford Title: Village Clerk
Street Address: 6771 11th Street P.O. Box:
City: Rockford State: IL Zip Code: 61109

Name: Village of Davis Junction Title: Village Clerk
Street Address: 106 North Elm Street P.O. Box: 207
City: Davis Junction State: IL Zip Code: 61020

Name: Cherry Valley Township Title:
Street Address: 4875 Blackhawk Road P.O. Box:
City: Rockford State: IL Zip Code: 61109

Name: Title: City of Rockford Clerk
Street Address: 425 East State St P.O. Box:
City: Rockford State: IL Zip Code: 61104

Name: Village of Cherry Valley Title:

Street Address: 806 East State Street P.O. Box:

City: Cherry VAlley State: IL Zip Code: 61016

		Yes	No	N/A
2.	Has the required Certification of Authenticity been completed and enclosed?	☑	☐	☐
3. a.	Is the Siting Certification Form (LPC-PA8) completed and enclosed?	☐	☑	☐
b.	Is siting approval currently under litigation?	☐	☑	☐
4. a.	Is a closure, and if necessary a post-closure plan covering these activities being submitted, or	☐	☑	☐
b.	has one already been approved?	☑	☐	☐
	If yes, provide the permit number: 1991-138-LF			
5. a.	For operating waste disposal sites, only: Has any employee, owner, operator, officer or director of the owner or operator had a prior conduct certification denied, canceled or revoked?	☐	☑	☐
b.	Have you included a demonstration of how you comply or intend to comply with 35 Ill. Adm. Code 745?	☐	☑	☐
6. a.	For waste disposal sites, only: Is the property for the facility held in a beneficial trust?	☐	☑	☐
b.	If yes, is a beneficial trust certification form (LPC-PA9) completed and enclosed?	☐	☐	☑
7. a.	Does the application contain information or proposals regarding the hydrogeology; groundwater monitoring, modeling or classification; a groundwater impact assessment; or vadose zone monitoring for which you are requesting approval?	☑	☐	☐
b.	If yes, have you submitted a third copy of the application (4 total) and supporting documents?	☑	☐	☐
8.	Has a 39(i) certification been submitted for each owner and operator business entity, and each person who signed for each entity, and each person who signed or may sign any application for this facility? Note: Only the original set of these forms need be submitted.	☑	☐	☐
	If no, then complete this certification as indicated.			

V. Signatures:

Original signatures are required. Signature stamps or applications transmitted electronically or by FAX are not acceptable.

All applications shall be signed by the person designated below as a duly authorized representative of the owner an/or operator. A printed name for each signature should also be provided.

Corporation - By a principal executive officer of the level of vice-president or above.
Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively.
Government - By either a principal executive officer or a ranking elected official.

A person is a duly authorized representative of the owner and operator only if:

1. They meet the criteria above or the authorization has been granted in writing by a person described above; and
2. Is submitted with this application (a copy of a previously submitted authorization can be used).

I hereby affirm that all information contained in this application is true and accurate to the best of my knowledge and belief. I do herein swear that I am a duly authorized representative of the owner/operator and I am authorized to sign this permit application form.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Thomas Hilbert — Printed Name:
Engineering Mgr — Title:
[signature] — Owner Signature:
10-30-2013 — Date:

Notary: Subscribed and Sworn before me this 30th day of October 2013.
My commission expires on: 1/10/2014
[signature]
"OFFICIAL SEAL" Nicole K. DeBoer NOTARY PUBLIC, STATE OF ILLINO MY COMMISSION EXPIRES 1/10/20
Signature & Stamp/Seal of Notary Public

Thomas Hilbert — Printed Name:
Engineering Mgr — Title:
[signature] — Operator Signature:
10-30-2013 — Date:

Notary: Subscribed and Sworn before me this 30th day of October 2013.
My commission expires on: 1/10/2014
[signature]
"OFFICIAL SEAL" Nicole K. DeBoer NOTARY PUBLIC, STATE OF ILLINOIS MY COMMISSION EXPIRES 1/10/2014
Signature & Stamp/Seal of Notary Public

Licensed Professional Engineer's Name: Douglas W. Mauntel
Licensed Professional Engineer's Title: Project Engineering
Registration Number: 062-054530
Company: Andrews Engineering, Inc.
Street Address: 3300 Ginger Creek Drive — PO Box:
City: Springfield — State: IL — Zip + 4: 62711
Email Address: dwmauntel@andrews-eng.com — Phone: 217-787-2334
License Expiration Date: 11/30/13

DOUGLAS W. MAUNTEL 062-054530 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
Licensed Professional Engineer's Seal

Signature: [signature] — Date: 10/31/13

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

Certification of Authenticity of Official Forms

This form must accompany any application submitted to the Illinois EPA Bureau of Land, Division of Land Pollution Control, Permit Section on forms other than the official copy printed and provided by the Illinois EPA. The only allowed changes to the form are in spacing, fonts, and the addition of the information provided. Any additions must be underlined. The forms would not be considered identical if there is any change to, addition or deletion of words on the form or to the language of the form.

The same individuals that sign the application form it accompanies must sign the following certification.

I hereby certify under penalty of law that I have personally examined, and am familiar with the application form or forms and all included supplemental information submitted to the Illinois EPA herewith, and that the official Illinois Environmental Protection Agency application form or forms used herein is or are identical in all respects to the official form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended, or otherwise modified in any way. I further certify under penalty of law that any attached or included electronic data version of the application form or forms complies with the official Illinois EPA's Electronic version thereof, and is or are identical in all respects to the official electronically downloadable form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended or otherwise modified in any way.

By: _____ 10-30-2013
Owner Signature (date)

Engineering Mgr
Title

By: _____ 10-30-2013
Operator Signature (date)

Engineering Mgr
Title

_____ 10/31/13
Engineer Signature (date)
(if necessary)

Subscribed and Sworn to Before Me,
a Notary Public in and for the
above-mentioned County and State.

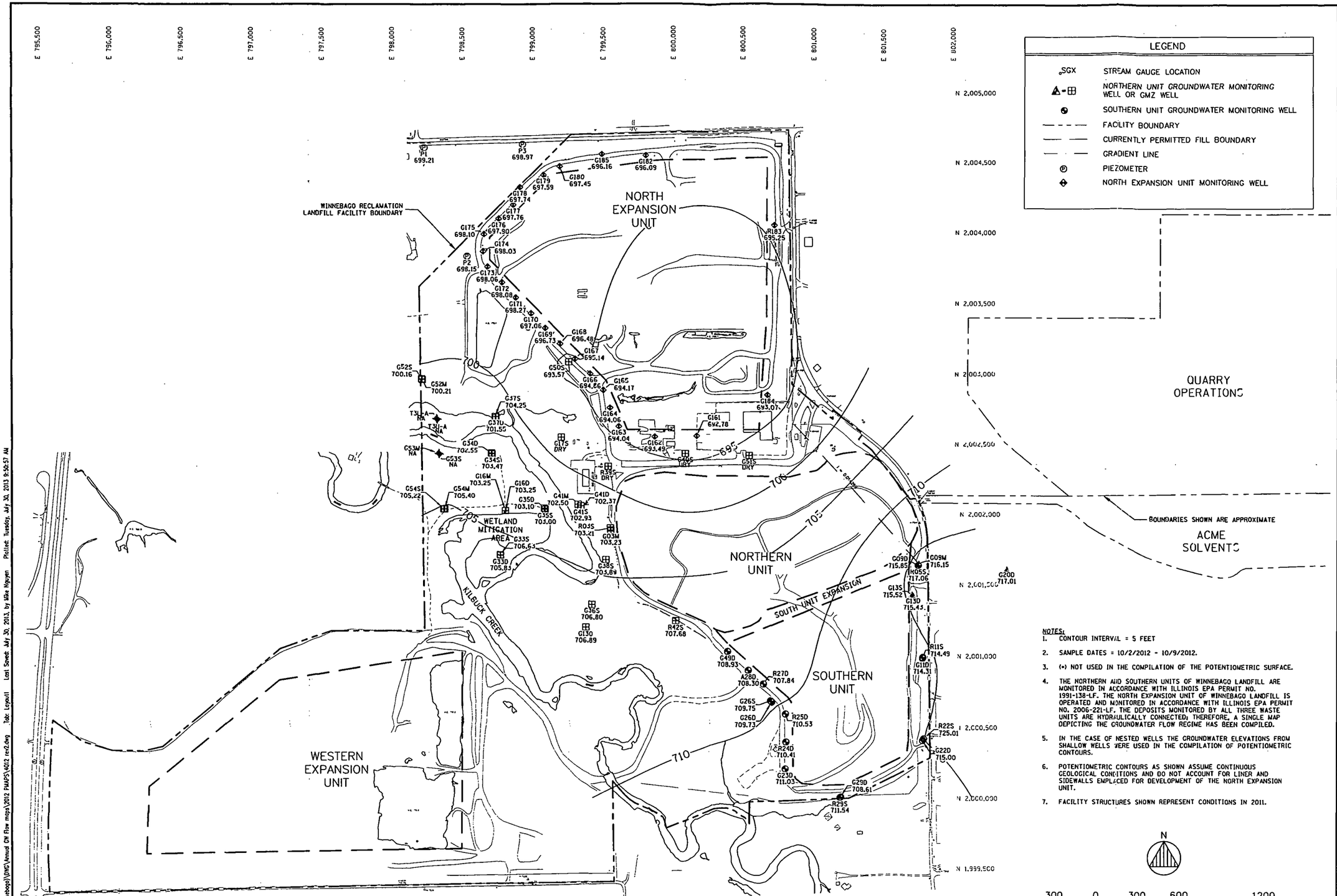
_____
Notary Public

"OFFICIAL SEAL"
Nicole K. DeBoer
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 1/10/2014

My Commission Expires: 1/10/2014 [Notary Seal]

APPENDIX B

POTENTIOMETRIC SURFACE MAPS



NOTES:

1. CONTOUR INTERVAL = 5 FEET
2. SAMPLE DATES = 10/2/2012 - 10/9/2012.
3. (•) NOT USED IN THE COMPILATION OF THE POTENTIOMETRIC SURFACE.
4. THE NORTHERN AND SOUTHERN UNITS OF WINNEBAGO LANDFILL ARE MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 1991-138-LF. THE NORTH EXPANSION UNIT OF WINNEBAGO LANDFILL IS OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 2006-221-LF. THE DEPOSITS MONITORED BY ALL THREE WASTE UNITS ARE HYDRAULICALLY CONNECTED; THEREFORE, A SINGLE MAP DEPICTING THE GROUNDWATER FLOW REGIME HAS BEEN COMPILED.
5. IN THE CASE OF NESTED WELLS THE GROUNDWATER ELEVATIONS FROM SHALLOW WELLS WERE USED IN THE COMPILATION OF POTENTIOMETRIC CONTOURS.
6. POTENTIOMETRIC CONTOURS AS SHOWN ASSUME CONTINUOUS GEOLOGICAL CONDITIONS AND DO NOT ACCOUNT FOR LINER AND SIDEWALLS EMPLACED FOR DEVELOPMENT OF THE NORTH EXPANSION UNIT.
7. FACILITY STRUCTURES SHOWN REPRESENT CONDITIONS IN 2011.

NO.	DATE	REVISIONS DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3303 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-6495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001541

APPROVED BY:	TNS	DESIGNED BY:	TNS
		DRAWN BY:	WCU

POTENTIOMETRIC SURFACE MAP
4TH QUARTER 2012

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: April 2013
PROJECT ID: 90-114
SHEET NUMBER: 4Q12

J:\1990\90-114 (Winnebago)\DWG\Annual GW Flow maps\2012 PMAPS\4Q12 rev2.dwg Tab: Layout1 Last Saved: July 30, 2013, by Mike Nguyen Plotted: Tuesday, July 30, 2013 9:50:57 AM

E 795,500 E 796,000 E 796,500 E 797,000 E 797,500 E 798,000 E 798,500 E 799,000 E 799,500 E 800,000 E 800,500 E 801,000 E 801,500 E 802,000

N 2,005,000 N 2,004,500 N 2,004,000 N 2,003,500 N 2,003,000 N 2,002,500 N 2,002,000 N 2,001,500 N 2,001,000 N 2,000,500 N 2,000,000 N 1,999,500

LEGEND

- SGX — STREAM GAUGE LOCATION
- NORTHERN UNIT GROUNDWATER MONITORING WELL OR GMZ WELL
- SOUTHERN UNIT GROUNDWATER MONITORING WELL
- FACILITY BOUNDARY
- CURRENTLY PERMITTED FILL BOUNDARY
- GRADIENT LINE
- PIEZOMETER
- NORTH EXPANSION UNIT MONITORING WELL

WINNEBAGO RECLAMATION LANDFILL FACILITY BOUNDARY

NORTH EXPANSION UNIT

NORTHERN UNIT

SOUTHERN UNIT

WESTERN EXPANSION UNIT

SOUTH UNIT EXPANSION

QUARRY OPERATIONS

BOUNDARIES SHOWN ARE APPROXIMATE

ACME SOLVENTS

WETLAND MITIGATION AREA

KILBUCK CREEK

P1 NA, P2 NA, P3 NA

G185 695.09; G182 695.08; G180 696.46; G179 696.68; G178 696.80; G177 696.92; G175 697.35; G176 697.11; G174 697.28; G173 697.30; G172 697.21; G171 697.34; G170 696.01; G169 695.68; G168 695.55; G167 694.05; G166 693.70; G165 693.09; G164 692.96; G163 693.01; G162 692.46; G161 691.90; R183 694.22; G184 692.22; G525 699.61; G52M 699.61; G50S 692.35; G37S 703.83; T3L-A NA; T3U-A NA; G37U 700.45; G53M 700.37; G53S 700.25; G340 701.52; G34S 702.83; G54S 704.35; G54M 704.47; G16D 702.10; G16M 702.10; G35D 702.05; G35S 701.83; G41M 700.13; G41D 701.24; G41S 702.20; R03S 701.96; G03M 701.95; G33S 706.17; G33D 705.14; G36S 702.87; G36S 706.40; G130 706.49; R42S 707.16; G49D 708.44; A28D 707.97; R27D 707.46; G26D 709.18; G26S 709.27; R25D 710.27; R24D 710.16; G23D 710.90; G29D 712.85; R29S 712.40; G09M 714.10; G09D 715.10; N09S DRY; G200 715.85; G13S 714.28; G13D 714.13; R11S 713.28; G11D 713.56; R22S 727.34; G22D 714.21; G15S DRY; G39S DRY; G40S DRY; G51S DRY; G15 DRY

695 700 705 710

NOTES:

1. CONTOUR INTERVAL = 5 FEET
2. SAMPLE DATES = 1/7/2013.
3. (•) NOT USED IN THE COMPILATION OF THE POTENTIOMETRIC SURFACE.
4. THE NORTHERN AND SOUTHERN UNITS OF WINNEBAGO LANDFILL ARE OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 1991-138-LF. THE NORTH EXPANSION UNIT OF WINNEBAGO LANDFILL IS OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 2006-221-LF. THE DEPOSITS MONITORED BY ALL THREE WASTE UNITS ARE HYDRAULICALLY CONNECTED; THEREFORE, A SINGLE MAP DEPICTING THE GROUNDWATER FLOW REGIME HAS BEEN COMPILED.
5. IN THE CASE OF NESTED WELLS THE GROUNDWATER ELEVATIONS FROM SHALLOW WELLS WERE USED IN THE COMPILATION OF POTENTIOMETRIC CONTOURS.
6. POTENTIOMETRIC CONTOURS AS SHOWN ASSUME CONTINUOUS GEOLOGICAL CONDITIONS AND DO NOT ACCOUNT FOR LINER AND SIDEWALLS EMPLACED FOR DEVELOPMENT OF THE NORTH EXPANSION UNIT.
7. FACILITY STRUCTURES SHOWN REPRESENT CONDITIONS IN 2011.

N

300 0 300 600 1200

SCALE: IN FEET

NO.	DATE	REVISIONS DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-6465
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineers and Land Surveying Firm #184-001541

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: MPN

POTENTIOMETRIC SURFACE MAP
1ST QUARTER 2013

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: April 2013

PROJECT ID: 90-114

SHEET NUMBER: 1Q13

J:\1990\90-114 (Winnebago)\DWG\Annual GW Flow maps\2013 PMAPS\1013.dwg Tab: Layout1 Last Saved: July 30, 2013, by Mike Nguyen Plotted: Tuesday, July 30, 2013 9:51:24 AM

E 795,500 E 796,000 E 796,500 E 797,000 E 797,500 E 798,000 E 798,500 E 799,000 E 799,500 E 800,000 E 800,500 E 801,000 E 801,500 E 802,000

N 2,005,000 N 2,004,500 N 2,004,000 N 2,003,500 N 2,003,000 N 2,002,500 N 2,002,000 N 2,001,500 N 2,001,000 N 2,000,500 N 2,000,000 N 1,999,500

LEGEND	
SGX	STREAM GAUGE LOCATION
	NORTHERN UNIT GROUNDWATER MONITORING WELL OR GMZ WELL
	SOUTHERN UNIT GROUNDWATER MONITORING WELL
	FACILITY BOUNDARY
	CURRENTLY PERMITTED FILL BOUNDARY
	GRADIENT LINE
P	PIEZOMETER
	NORTH EXPANSION UNIT MONITORING WELL

WINNEBAGO RECLAMATION LANDFILL FACILITY BOUNDARY

NORTH EXPANSION UNIT

NORTHERN UNIT

SOUTHERN UNIT

WESTERN EXPANSION UNIT

QUARRY OPERATIONS

BOUNDARIES SHOWN ARE APPROXIMATE

ACME SOLVENTS

WETLAND MITIGATION AREA

KILBUCK CREEK

SOUTH UNIT EXPANSION

P1 NA P2 NA P3 NA

G178 698.02 G179 697.96 G180 697.71 G185 695.90 G182 695.93 G183 694.87 G184 692.26

G177 698.01 G176 698.15 G175 698.46 G174 698.28 G173 698.31 G172 698.18 G171 698.37 G170 696.82 G169 696.28 G168 696.15 G167 694.35 G166 693.94 G165 693.12 G164 692.84 G163 692.81 G162 692.32 G161 691.89

G52M 700.64 G52S 700.64 G37D 700.45 T3U-A NA T3L-A NA G37S 703.01 G34S 703.33 G53M 700.27 G53S 700.20 G24D 701.56 G16U 702.06 G16M 701.95 G35D 702.00 G41M 701.79 G41D 701.28 G41S 701.82 G35S 701.88 G54S 704.55 G54M 704.57 R395 693.05 R03S 702.26 G03M 702.31 G33S 705.54 G33D 705.00 G38S 703.01 G36S 706.65 G30 706.72 R42S 707.68 G49D 709.07 R27D 708.18 A28D 708.62 G26D 709.96 G26S 710.13 R25D 711.19 R24D 711.16 G23D 723.93 R29S 714.35 G29D 714.32 G22D 715.24 R22S 731.10 R11S 714.57 G11D 714.73 G13S DRY G13C 717.93 G13D 717.62 G09D 716.70 G09M 716.75 H05S DRY G20D 718.16

695 700 705 710 715 720

NOTES:
1. CONTOUR INTERVAL = 5 FEET
2. SAMPLE DATES = 4/1/2013.
3. (-) NOT USED IN THE COMPILATION OF THE POTENTIOMETRIC SURFACE.
4. THE NORTHERN AND SOUTHERN UNITS OF WINNEBAGO LANDFILL ARE OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 1991-138-LF. THE NORTH EXPANSION UNIT OF WINNEBAGO LANDFILL IS OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 2006-221-LF. THE DEPOSITS MONITORED BY ALL THREE WASTE UNITS ARE HYDRAULICALLY CONNECTED; THEREFORE, A SINGLE MAP DEFICTING THE GROUNDWATER FLOW REGIME HAS BEEN COMPILED.
5. IN THE CASE OF NESTED WELLS THE GROUNDWATER ELEVATIONS FROM SHALLOW WELLS WERE USED IN THE COMPILATION OF POTENTIOMETRIC CONTOURS.
6. POTENTIOMETRIC CONTOURS AS SHOWN ASSUME CONTINUOUS GEOLOGICAL CONDITIONS AND DO NOT ACCOUNT FOR LINER AND SIDEWALLS EMPLACED FOR DEVELOPMENT OF THE NORTH EXPANSION UNIT.
7. FACILITY STRUCTURES SHOWN REPRESENT CONDITIONS IN 2011.

N

300 0 300 600 1200

SCALE: IN FEET

NO.	DATE	REVISIONS DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-6465
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineers; and Land Surveying Firm #184-001541

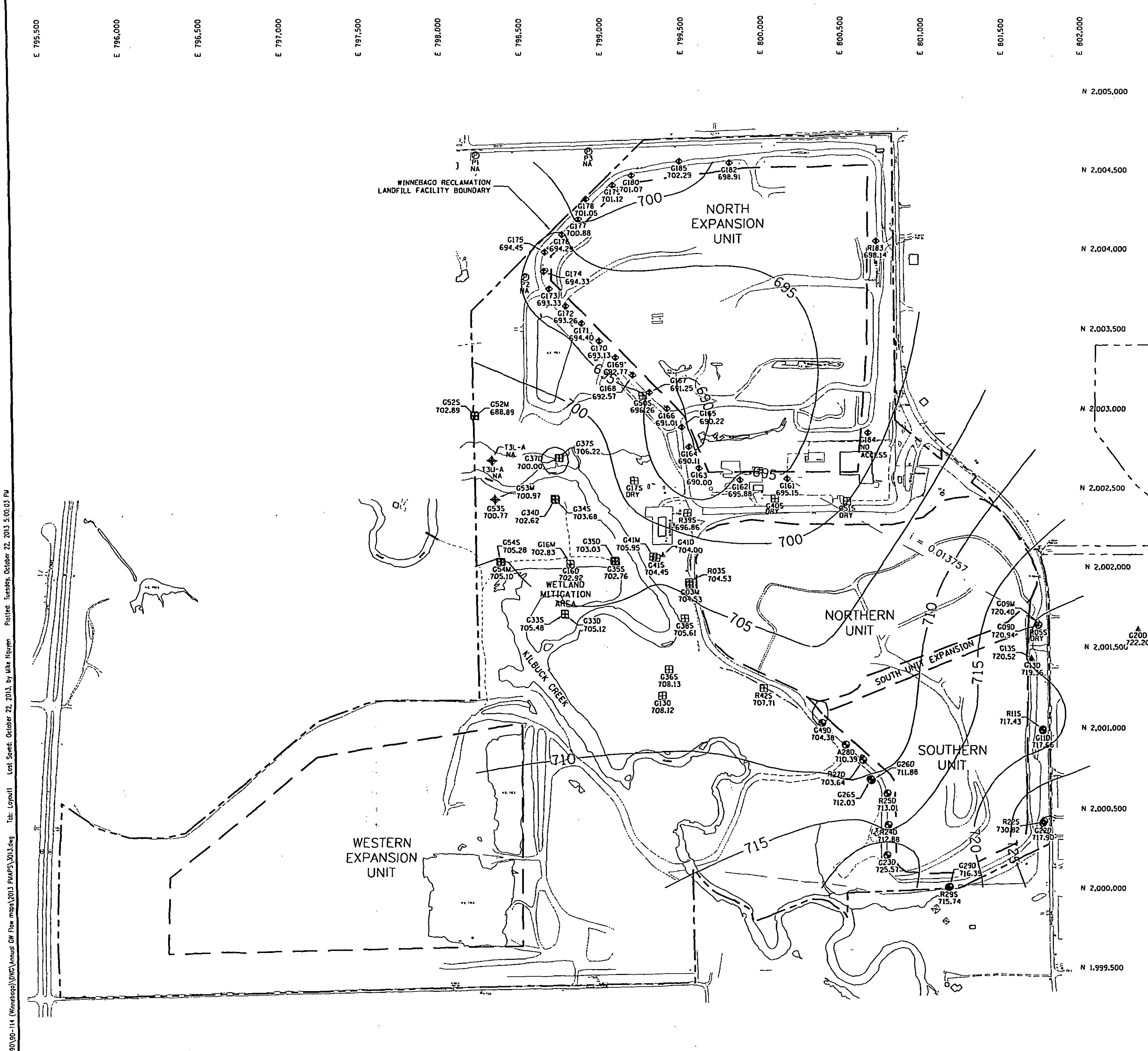
APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: MPN

POTENTIOMETRIC SURFACE MAP
2ND QUARTER 2013

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: July 2013
PROJECT ID: 90-114
SHEET NUMBER: 2013

J:\1990\90-114 (Winnebago)\DWG\Annual GW flow maps\2013 PW&PS\2013.dwg Tab: Layout1 Last Saved: July 30, 2013, by Mike Nguyen Plotted: Tuesday, July 30, 2013 9:51:59 AM



LEGEND

SGX	STREAM GAUGE LOCATION
▲ - ⊞	NORTHERN UNIT GROUNDWATER MONITORING WELL OR GMZ WELL
●	SOUTHERN UNIT GROUNDWATER MONITORING WELL
— - - —	FACILITY BOUNDARY
—— ——	CURRENTLY PERMITTED FILL BOUNDARY
— —	GRADIENT LINE
Ⓟ	PIEZOMETER
◈	NORTH EXPANSION UNIT MONITORING WELL

NOTES:

1. CONTOUR INTERVAL = 5 FEET
2. SAMPLE DATES = 7/11/2013.
3. (*) NOT USED IN THE COMPILATION OF THE POTENTIOMETRIC SURFACE.
4. THE NORTHERN AND SOUTHERN UNITS OF WINNEBAGO LANDFILL ARE OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 1991-138-LF. THE NORTH EXPANSION UNIT OF WINNEBAGO LANDFILL IS OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 2006-221-LF. THE DEPOSITS MONITORED BY ALL THREE WASTE UNITS ARE HYDRAULICALLY CONNECTED; THEREFORE, A SINGLE MAP DEPICTING THE GROUNDWATER FLOW REGIME HAS BEEN COMPILED.
5. IN THE CASE OF NESTED WELLS THE GROUNDWATER ELEVATIONS FROM SHALLOW WELLS WERE USED IN THE COMPILATION OF POTENTIOMETRIC CONTOURS.
6. POTENTIOMETRIC CONTOURS AS SHOWN ASSUME CONTINUOUS GEOLOGICAL CONDITIONS AND DO NOT ACCOUNT FOR LINER AND SIDEWALLS EMPLACED FOR DEVELOPMENT OF THE NORTH EXPANSION UNIT.
7. FACILITY STRUCTURES SHOWN REPRESENT CONDITIONS IN 2011.
8. *WELL G184 NOT SAMPLED DUE TO UNSAFE WORKER CONDITIONS AT THIS LOCATION.*

N

300 0 300 600 1200

SCALE: IN FEET

REVISIONS		
NO.	DATE	DESCRIPTION	BY.

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001541

APPROVED BY: MTH DESIGNED BY: MTH DRAWN BY: MPN

POTENTIOMETRIC SURFACE MAP
3RD QUARTER 2013

PLANS PREPARED FOR

WINNEBAGO LANDFILL

ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: October 2013

PROJECT ID: 90-114

SHEET NUMBER:

3Q13

J:\1990\90-114 (Winnebago)\DWG\Annual GW Flow maps\2013 PMAPS\3Q13.dwg Tab: Layout1 Last Saved: October 22, 2013, by Mike Nguyen Plotted: Tuesday, October 22, 2013 5:00:03 PM

www.andrews-eng.com

Corporate Headquarters
Springfield Branch Office
3300 Ginger Creek Drive
Springfield, IL 62711
Tel: (217) 787-2334
Fax: (217) 787-9495

Pontiac Branch Office
215 West Washington Street
Pontiac, IL 61764
Tel: (815) 842-2042
Fax: (815) 842-2159

Indianapolis Branch Office
7172 Graham Road, Suite 125
Indianapolis, IN 46250
Tel: (317) 595-6492
Fax: (317) 598-9929

Naperville Branch Office
1701 Quincy Avenue, Suite 25
Naperville, IL 60540
Tel: (630) 544-3332
Fax: (630) 544-3398

St. Louis Branch Office
131 W. Booneslick Road
Warrenton, MO 63383
Tel: (636) 456-6387
Fax: (636) 456-6389